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Someone to Do the Work: The Skilled Trades in the 21st Century

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I received the prompts and provocations for our Knowledge Infrastructures workshop around the same time as I noticed two articles in my local paper, Utica's *Observer-Dispatch*. Utica, in central New York state, sits near the eastern edge of the American rust belt. One of the articles, citing a [local construction boom](#), touted the plentiful jobs and high salaries for electricians, welders, and carpenters. A few days later, an editorial, "[Now's the time to think about trades career](#)," cited average salaries in the skilled trades between \$40,000 and \$70,000—more than recipients of bachelor's degrees, and without student loans. These articles resonated with stories I've heard from friends and families in recent years. Several people who have tried to hire electricians, plumbers, or carpenters say the same thing: "I can't find anyone to do the work."

With [serendipity as an ever-trustworthy inspiration for research](#), it occurred to me that the skilled trades could usefully be conceived as a knowledge infrastructure, and thus be a compelling subject for discussion at our workshop. My hypothesis is that the skilled trades are indeed a knowledge infrastructure whose survival is under threat—if we can stretch "under threat" to include systematic failures to keep up with community needs.

Some definitions: "skilled trades" is, as far as I can tell, a colloquial term for professions that involve manual labor and require specialized education. The term "skilled trades" includes a [variety of occupations](#), including mechanics, electricians, chefs, plumbers, bricklayers, machinists, and construction workers. An organization in Michigan sorts these professions into [three categories](#): skilled industrial trades, skilled construction trades, and skilled service trades. And as a reminder, in *A Vast Machine* Paul Edwards defined [knowledge infrastructures](#) as "robust networks of people, artifacts, and institutions that generate, share, and maintain specific knowledge about the human and natural worlds."

These two categories—the skilled trades and knowledge infrastructures—map onto one another in (at least) three ways. First is the matter of knowledge that is generated, shared, and maintained—in this case, the "skill" in skilled trades, which is useful knowledge about construction, repair, maintenance, operations, and troubleshooting.

Second are the artifacts themselves: bricks, tools, pipes, pumps, machines, trucks, and so on. And third is the matter of “robust networks,” which in this case are grounded in institutions such as trade schools, vocational schools, apprenticeships, and regimes for licensure—as well as informal networks of tacit knowledge, experience, and practices that are passed on job by job, person to person.

With that said, the skilled trades have a certain unruliness not shared by many examples in the literature on knowledge infrastructures. They have no overarching authority or governance structure. They are a set of skills that are universal in industrial societies; but their meanings and variations depend entirely on local circumstances.

What lead to these threats, and over what time frame?

In central New York’s Mohawk Valley, I suspect three major factors have led to the tenuous position of the skilled trades, all unfolding over decades, more or less in plain sight. First, the slow march of deindustrialization decimated the regional economy over the past 50 years, and the area is enduring a phase of steady population decline. The second, related factor is the aging of the incumbent workforce—illustrated by a story that a mechanical engineering student told me about his internship last summer, where (I’m paraphrasing) “10 old guys in a machine shop told me I better figure out how to run everything in there, because they want to retire and there’s nobody else.” Third, and even longer in the making, are the status anxieties that led several generations of Americans to look down their noses at people with dirt under their fingernails and callouses on their hands. Snobbery about work is one of the most irritating and self-destructive aspects of American liberalism.

What actions or changes in circumstances might lead to its survival?

Advocates for the skilled trades frequently start with data. According to the labor market research firm [Esmi](#), demand for workers in the skilled trades grew by 10-20% between 2013 and 2017. Examples include construction (12% growth, average wage of \$19.18/hour), tile and marble setters (18% growth, \$21.20/hour), and electrical installation and repair for transportation equipment (9% growth, \$28.03/hour). There are plenty of studies that examine local or state-level dynamics, for example in [California](#).

But money isn’t everything, and advocates for the skilled trades also highlight their fulfilling aspects: a sense of pride in work, and of making a difference in someone’s life. From my point of view, the survival of the skilled trades would be greatly

enhanced by a cultural shift towards a more holistic and grounded appreciation of technology and work. But there is a constant threat: our culture pays more respect, and more money, to the wizards of digital innovation. Today, there's little prestige in the mastery of "old" technologies like motors, pumps, or saws.

What will be gained or lost, by whom, if this KI fails to survive?

This is an easy one: imagine what would be lost if you (or your neighbor upstairs) couldn't find a good plumber.

What are the most urgent research questions to address about KI? Why?

Who does the work, and on what terms? For the skilled trades, there's been a lot of discussion about the so-called "skills gap." Much of this chatter is spoken in a [managerial dialect](#), and is cast from the vantage point of scholars and policymakers who seem preoccupied with the [interests of employers](#). My interests lie elsewhere; I'm more curious about how subjective perceptions of status hierarchies play out in labor markets and educational institutions. One tradition from labor history casts these questions as matters of "[moral economy](#)," or the obligations that "arise from interactions between people." Cultural sociologists have a different concept, "[social aesthetics](#)," that could be a rewarding concept to apply to matters of labor and status in knowledge infrastructures.

How do KI spread information? Misinformation? Alone and in combination with other infrastructures?

Those are big questions, and I'm already over my word limit. For the skilled trades, information spreads via formal and informal mechanisms, such as trade schools, unions, apprenticeships, shop talk, and YouTube.